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EXAMINER	
DEAN, RAYMOND S	

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11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/832,895	Applicant(s) SATO ET AL.	
	Examiner Raymond S Dean	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 - 19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 - 19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 9.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 - 4 and 6 - 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Marturano et al. (5,636,230).

Regarding Claim 1, Marturano teaches a retransmission control method in a multicast service providing system in which an information delivery apparatus delivers multicast information to radio terminals within a service area of the information delivery apparatus via a radio section (Figure 1, Column 2 lines 43 – 52), some of the radio terminals being configured to send a request for retransmission of the multicast information in case of an error and others of the radio terminals being configured to not send the request for retransmission (Column 3 lines 20 – 38), said method comprising: determining whether respective of the radio terminals within the service area is designated as a retransmission-permitted terminal permitted for retransmission of the multicast information (Column 4 lines 16 – 62); notifying a retransmission designation status to the retransmission-permitted terminal, and delivering, when a request for retransmission of the multicast information sent by one of the radio terminals is

received, the multicast information to said one of the radio terminals (Column 4 lines 16 – 49, the counter limit sent during the preamble is the notification); and changing one of the radio terminals designated as being the retransmission-permitted terminal, to a retransmission-inhibited terminal which is not permitted for retransmission of the multicast information, based on a status of retransmission requests received from the radio terminals (Column 3 lines 20 – 38).

Regarding Claim 2, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches the step comprising a step of determining, at the information delivery apparatus, said at least one radio terminal (Column 4 lines 16 – 62); and the retransmission control method further comprises a step of notifying said at least one radio terminal that a request for retransmission is permitted (Column 4 lines 16 – 49, the notification is the counter limit that is sent during the preamble).

Regarding Claim 3, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches a step that comprises a step of determining, at each radio terminal, whether its own terminal is placed in retransmission control (Column 4 lines 16 – 49, since the receiving data units receive the counter limit during the preamble said receiving data units know if they will be placed in retransmission control).

Regarding Claim 4, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches the step of determining a plurality of radio terminals to be placed in retransmission control (Column 4 lines 16 – 62).

Regarding Claim 6, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches a step that determines at least one radio terminal on

the basis of a quality of communications between the information delivery apparatus and each of the radio terminals (Column 4 lines 63 – 67, Column 5 lines 1 – 12).

Regarding Claim 7, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches a step that determines at least one radio terminal on the basis of distances between the information delivery apparatus and the radio terminals (Column 4 lines 63 – 67, Column 5 lines 1 – 12, the RSSI and the SNR can improve or degrade as the distance changes thus this is an inherent characteristic).

Regarding Claim 8, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches a step that determines at least one radio terminal on the basis of directions of the radio terminals from the information delivery apparatus (Column 4 lines 50 – 62).

Regarding Claim 9, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches a step that determines at least one radio terminal on the basis of moving speeds of the radio terminals (Column 4 lines 50 – 62).

Regarding Claim 11, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches a step of changing said at least one radio terminal to another radio terminal when said at least one radio terminal terminates reception of the multicast information (Figure 1, Column 2 lines 43 – 52, Column 3 lines 20 – 38, there will be a plurality of receiving data units that have NACK capability thus when one receiving data unit terminates reception there will be other receiving data units with NACK capability that will still be receiving data).

Regarding Claim 12, Marturano teaches an information delivery apparatus for use in a multicast service providing system in which the information delivery apparatus delivers multicast information to radio terminals within a service area of the information delivery apparatus via a radio section (Figure 1, Column 2 lines 43 – 52, the transmitting data unit is the information delivery apparatus), some of the radio terminals being configured to send a request for retransmission of the multicast information in case of an error and others of the radio terminals being configured to not send the request for retransmission (Column 3 lines 20 – 38), said information delivery apparatus comprising: a first unit configured to determine whether respective of the radio terminals within the service area is designated as a retransmission-permitted terminal permitted for retransmission of the multicast information (Column 4 lines 16 – 62, since the transmitting data unit conducts this function said transmitting data unit comprises an inherent first unit); a second unit configured to notify a retransmission designation status to the retransmission-permitted terminal, and delivering, when a request for retransmission of the multicast information sent by one of the radio terminals is received, the multicast information to said one of the radio terminals (Column 4 lines 16 – 49, the counter limit sent during the preamble is the notification, since the transmitting data unit conducts this function said transmitting data unit comprises an inherent second unit); and a third unit configured to change one of the radio terminals designated as being the retransmission-permitted terminal, to a retransmission-inhibited terminal which is not permitted for retransmission of the multicast information, based on a status of retransmission requests received from the radio terminals (Column 3 lines 20 – 38,

since the transmitting data unit conducts this function said transmitting data unit comprises an inherent third unit).

Regarding Claim 13, Marturano teaches all of the claimed limitations recited in Claim 12. Marturano further teaches wherein the first unit determines a plurality of radio terminals to be placed in retransmission control (Column 4 lines 16 – 62).

Regarding Claim 15, Marturano teaches all of the claimed limitations recited in Claim 13. Marturano further teaches a fourth unit managing status of retransmission requests sent by radio terminals placed in the retransmission control, the third unit changing said at least one radio terminal on the basis of the status of retransmission requests managed by the fourth unit (Column 3 lines 20 – 38, the repeated NACKs are a status of the retransmission requests thus there is an inherent fourth unit that manages said NACKs).

Regarding Claim 16, Marturano teaches a radio terminal receiving multicast information from an information delivery apparatus via a radio section (Figure 1, Column 2 lines 43 – 52), said radio terminal comprising: a first unit configured to determine whether the radio terminal is notified from the information delivery apparatus as being a retransmission-permitted terminal which is permitted for retransmission of the multicast information (Column 4 lines 16 – 40, the count limit sent during the preamble to the receiving data unit is the notification thus there is an inherent first unit); and a second unit configured to send a request for retransmission of the multicast information to the information delivery apparatus in case of an error when it is determined that the radio terminal is notified as being the retransmission-permitted terminal (Column 4 lines 16 –

49, since the receiving data unit conducts this function said receiving data unit comprises an inherent second unit).

Regarding Claim 17, Marturano teaches all of the claimed limitations recited in Claim 16. Marturano further teaches wherein the first unit determines whether its own terminal is placed in retransmission control on the basis of given information sent by the information delivery apparatus (Column 4 lines 16 – 40, the count limit sent during the preamble lets the receiving data unit know whether it will be placed in retransmission control).

Regarding Claim 18, Marturano teaches all of the claimed limitations recited in Claim 16. Marturano further teaches wherein the first unit determines whether its own terminal is placed in retransmission control on the basis of a quality of communications with the information delivery apparatus (Column 4 lines 63 – 67, Column 5 lines 1 – 12).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marturano et al. (5,636,230) in view of Kumar (US 6,269,080 B1).

Regarding Claim 5, Marturano teaches all of the claimed limitations recited in Claim 1. Marturano further teaches radio terminals in a service area (Figure 1, Column 2 lines 43 – 52).

Marturano does not teach the step comprising a step of grouping radio terminals on the basis of unique information assigned to the radio terminals; and the step determines at least one radio terminal on the basis of grouping radio terminals.

Kumar teaches a step of grouping terminals on the basis of unique information assigned to the terminals; and the step determines at least one terminal on the basis of grouping terminals (Figure 4, Figure 5, Figure 9, Figure 10, Column 6 lines 52 – 67, Column 7 lines 1 – 17, Column 7 lines 44 – 67, Column 8 lines 1 – 16, Column 10 lines 27 – 67, Column 11 lines 1 – 15).

Marturano and Kumar (Column 4 lines 22 – 28, satellite has wireless RF links) both teach a wireless multicast system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the grouping method taught in Kumar in the multicast system taught in Marturano as an alternative means for eliminating the acknowledgement implosion problem associated with multicast transport protocols by making only one receiver responsible for generating acknowledgements and also requesting retransmissions.

Regarding Claim 19, Marturano teaches all of the claimed limitations recited in Claim 16. Marturano further teaches a third unit, which corrects the multicast information by part of the multicast information sent by the information delivery apparatus retransmitted in response to a request for retransmission by the second unit

when the first unit determines that its own terminal is placed in retransmission control (Column 4 lines 16 – 49).

Marturano does not teach correcting the multicast information by part of the multicast information sent by the information delivery apparatus transmitted in response to a request for retransmission by another radio terminal when the first unit determines that its own terminal is placed out of retransmission control.

Kumar teaches correcting the multicast information by part of the multicast information sent by the information delivery apparatus transmitted in response to a request for retransmission by another terminal when the first unit determines that its own terminal is placed out of retransmission control (Figure 4, Column 6 lines 52 – 67, Column 7 lines 1 – 10, the non active receivers in the group will receive the newly retransmitted packets thus allowing said non active receivers to correct the corrupted packets).

Marturano and Kumar (Column 4 lines 22 – 28, satellite has wireless RF links) both teach a wireless multicast system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method taught above in Kumar in the multicast system of Marturano as an alternative means for eliminating the acknowledgement implosion problem associated with multicast transport protocols by making only one receiver responsible for generating acknowledgements and also requesting retransmissions.

Conclusion

5. Any inquiry concerning this communication should be directed to Raymond S. Dean at telephone number (703) 305-8998.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand –delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

NAY MAUNG
SUPERVISORY PATENT EXAMINER